Stacking

- Friday afternoon there were some problems with P2 line orbit.
 - There was a short lived excursion at F11
 - When the overthruster was restored, the AP2 line trims were also restored.
 - We are not currently using the AP2 portion of the overthruster due to problems with the upstream AP2 line BPMs.
 - A target tune was needed to get beam back.
- Friday evening, the MI-52 kicker took a walk, changing the horizontal position coming into the P1 line.
 - The Overthruster could not handle this and needed to be turned off.
 - Beam intensity making it to the Debuncher decreased overnight.
 - Saturday morning experts looked into this further.
 - Attempts to fix the kicker failed, so we used the model to find another set of trim values where we could run.
 - However, the overthruster still would not work.
 - So target tunes are needed to correct the drift in the beam lines every couple hours.
 - Later an alternate solution was that put some of the trim changes back and modified the desired positions.
 - In this mode we can run the overthruster
 - Does this create Losses in MI?
- D:FAN60C (circulating fan in the tunnel at A60) shows off. We will not be able to address this until the next access period.
- Stacking Numbers
 - Over the weekend
 - < <stacking rate> = 13.5 mA/hr
 - \Box cproduction> = 23.3 e-6/p
 - \Box
 <
 - These numbers are lower due to:
 - ♦ MI-52 kicker issues
 - ♦ Stacking to a 238 mA stack
 - Average numbers overnight are more representative of machine conditions
 - \Box <stacking rate> = 22.6 mA/hr
 - \Box cproduction> = 24.9 e-6/p
 - \Box
 <

Studies

- Friday did some Accumulator wideband pickup studies.
 - Fixed some improperly terminated cables.
- Sunday completed Debuncher cooling studies and made some gains.
 - See notes starting at http://www-bd.fnal.gov/cgi-mach/machlog.pl?nb=pbar09
 &action=view&page=224&anchor=125520&hilite=12:55:20-
 - The ARF1 deposition frequency was changed on Thursday and seemed to be pushing emittances.
 - Momentum Band 3 is phased well, but the upper 1/2 band cools better than the lower 1/2 band and there is no power in the upper band.
 - PB4 lower has a broken readback. This trombone is hurting the cooling rate.
 - PB3 and PB4 cool much better than PB1 and PB2, but are not well balanced.
 - Need to fix D:PV4TL1

Transfers

- We unstacked 968e10 in 72 transfers over 32 sets.
 - <transfer efficiency> = 89%
 - This number brought down by low transfer efficiencies from stacks of 238 and 90mA on Sunday
- Transfer 13907 at 15:04 on Sunday falsly shows only 43% efficiency. Plotting this transfer I see that R:BEAM goes away at the time of the second transfer and comes back a short time later.

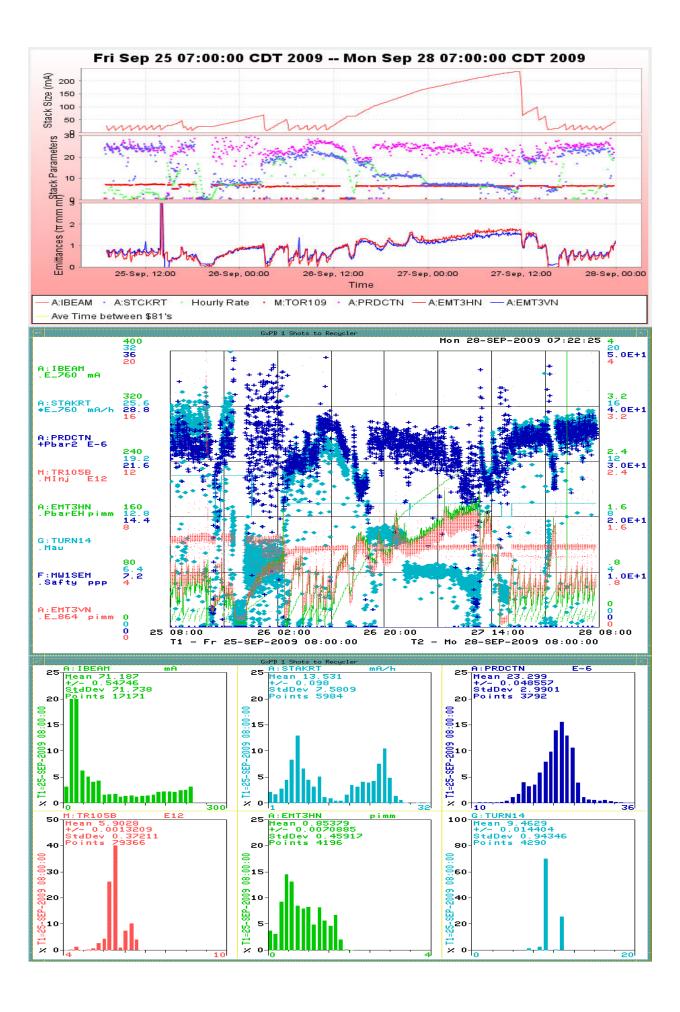
Requests

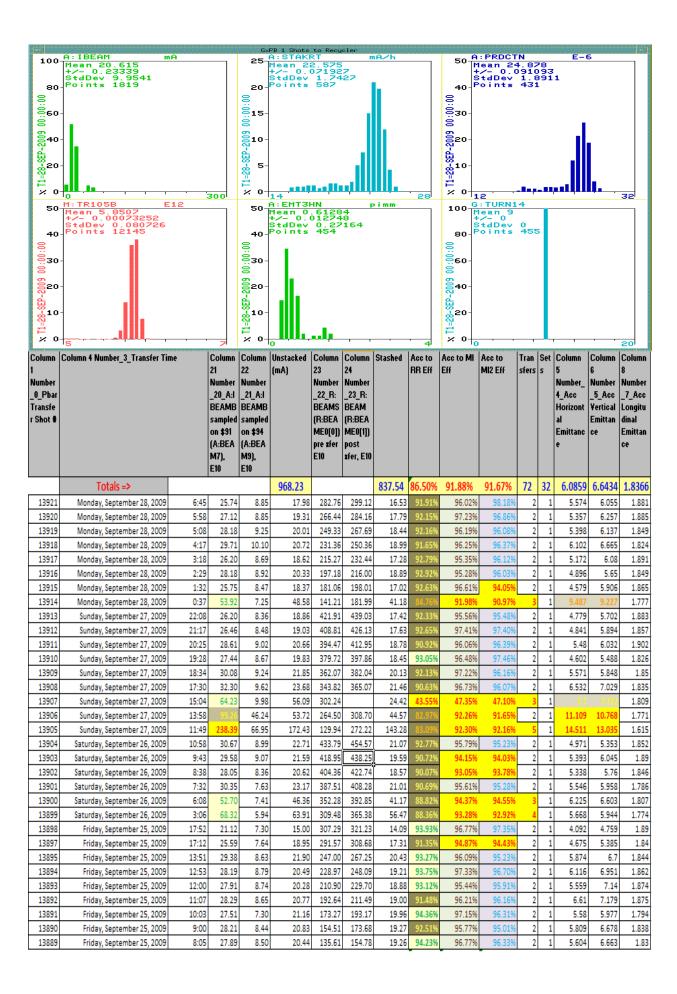
- Dave Peterson would like to do a measurement on the D:BPM703 cable during any interruption in stacking.
 - The measurement only takes minutes.
- Tony Leveling would like to test the remote filling of the lens water sytem.
 - This has been tested during the shutdown, but has not yet been done during operations.
- Full check-out of all cooling systems
 - Need stacking pulses available
 - Very destructive to stacking
 - At least two shifts. Can be broken into two or four hour chunks.
 - Maybe we can wait until Ecool dies.

The Numbers

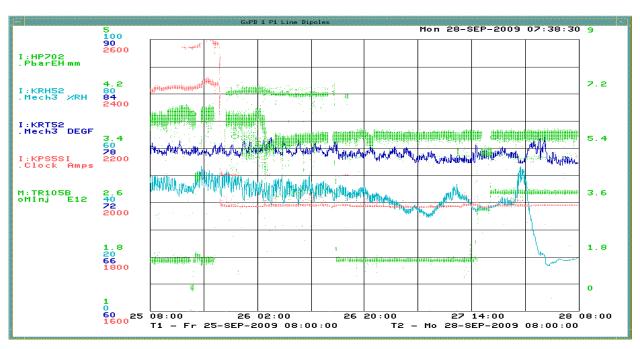
- Stacking
 - Pbars stacked: 1009.97 E10
 - Time stacking: 69.05 Hr
 - Average stacking rate: 14.63 E10/Hr
- Uptime
 - Number of pulses while in stacking mode: 83992
 - Number of pulses with beam: 80180
 - Fraction of up pulses was: 95.46%
- The uptime's effect on the stacking numbers
 - Corrected time stacking: 65.91 Hr
 - Possible average stacking rate: 15.32 E10/Hr
 - Could have stacked: 1057.99 E10/Hr
- Recycler Transfers
 - Pbars sent to the Recycler: 1020.10 E10
 - Number of transfers: 76
 - Number of transfer sets: 35
 - Average Number of transfer per set: 2.17
 - Time taken to shoot including reverse proton tuneup: 00.29 Hr
 - Transfer efficiency: 114.04%
- Other Info
 - Average POT: 5.91 E12
 - Average production: 21.32 pbars/E6 protons
- * Missed one or more A:IBEAM7 events somewhere in the middle of the user selected time span. Calculated time shot using 13 secs per transfer.

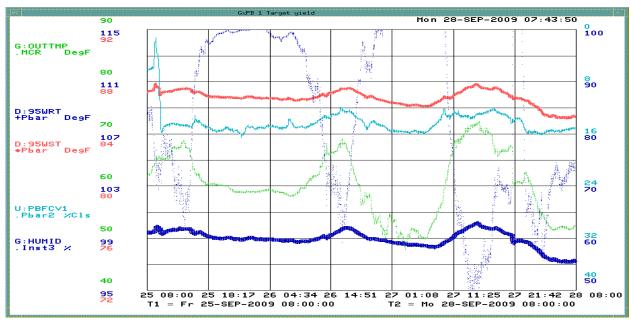
Plots

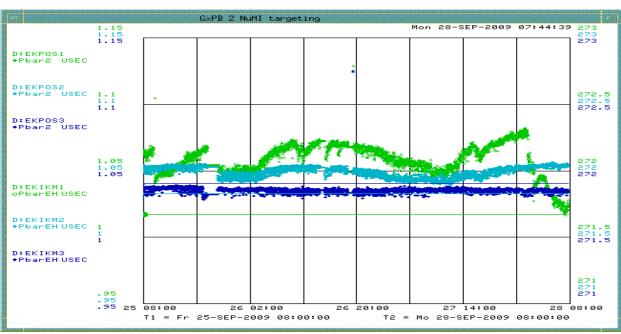




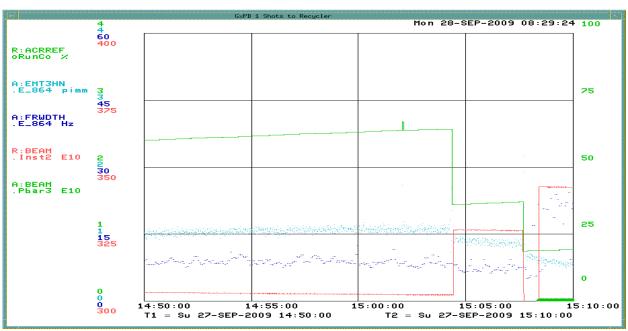
Column 1 Number _0_Pbar Transfe r Shot #	Column 4 Number_3_Transfer Ti	Column 21 Number _20_A:I BEAMB sampled on \$91 (A:BEA M7), E10	Column 22 Number _21_A:I BEAMB sampled on \$94 (A:BEA M9), E10	Unstacked (mA)	23 Number _22_R: BEAMS (R:BEA ME0[0])	Column 24 Number _23_R: BEAM (R:BEA ME0[1]) post zfer, E10	Stashed	Acc to RR Eff	Acc to MI Eff	Acc to MI2 Eff	Tran sfers		Column 5 Number_ 4_Acc Horizont al Emittanc	Column 6 Number _5_Acc Vertical Emittan ce	Column 8 Number _7_Acc Longitu dinal Emittan ce	
	Totals =>				685.99			625.27	91.15%	95.39%	95.19%	72	29	5.5666	6.2436	1.8474
13921	Monday, September 28, 2009	6:45	25.74	8.85	17.98	282.76	299.12	16.53	91.91%	96.02%	98.18%	2	_	5.574	6.055	1.881
13920	Monday, September 28, 2009	5:58	27.12	8.85	19.31	266.44	284.16	17.79	92.15%	97.23%	96.86%	2	_	5.357	6.257	1.885
13919	Monday, September 28, 2009	5:08	28.18	9.25	20.01	249.33	267.69	18.44	92.16%	96.19%	96.08%	2	1	5.398	6.137	1.849
13918	Monday, September 28, 2009	4:17	29.71	10.10	20.72	231.36	250.36	18.99	91.65%	96.25%	96.37%	2	_	6.102	6.665	1.824
13917	Monday, September 28, 2009	3:18	26.20	8.69	18.62	215.27	232.44	17.28	92.79%	95.35%	96.12%	2	1	5.172	6.08	1.891
13916	Monday, September 28, 2009	2:29	28.18	8.92	20.33	197.18	216.00	18.89	92.92%	95.28%	96.03%	2	_	4.896	5.65	1.849
13915	Monday, September 28, 2009	1:32	25.75	8.47	18.37	181.06	198.01	17.02	92.63%	96.61%	94.05%	2	1	4.579	5.906	1.865
13914	Monday, September 28, 2009	0:37	53.92	7.25	48.58	141.21	181.99	41.18	84.76%	91.98%	90.97%	3	1	9.487	9,227	1.777
13913	Sunday, September 27, 2009	22:08	26.20	8.36	18.86	421.91	439.03	17.42	92.33%	95.56%	95.48%	2	_	4.779	5.702	1.883
13912	Sunday, September 27, 2009	21:17	26.46	8.48	19.03	408.81	426.13	17.63	92.65%	97.41%	97.40%	2	_	4.841	5.894	1.857
13911	Sunday, September 27, 2009	20:25	28.61	9.02	20.66	394.47	412.95	18.78	90.92%	96.06%	96.39%	2	1	5.48	6.032	1.902
13910	Sunday, September 27, 2009	19:28	27.44	8.67	19.83	379.72	397.86	18.45	93.05%	96.48%	97.46%	2	_	4.602	5.488	1.826
13909	Sunday, September 27, 2009	18:34	30.08	9.24	21.85	362.07	382.04	20.13	92.13%	97.22%	96.16%	2	_	5.571	5.848	1.85
13908	Sunday, September 27, 2009	17:30	32.30	9.62	23.68	343.82	365.07	21.46	90.63%	96.73%	96.07%	2	1	6.532	7.029	1.835
									,	, ,	, ,	2]			
13904	Saturday, September 26, 2009	10:58	30.67	8.99	22.71	433.79	454.57	21.07	92.77%	95.79%	95.23%	2	1	4.971	5.353	1.852
13903	Saturday, September 26, 2009	9:43	29.58	9.07	21.59	418.95	438.25	19.59	90.72%	94.15%	94.03%	2	_	5.393	6.045	1.89
13902	Saturday, September 26, 2009	8:38	28.05	8.36	20.62	404.36	422.74	18.57	90.07%	93.05%	93.78%	2	_	5.338	5.76	1.846
13901	Saturday, September 26, 2009	7:32	30.35	7.63	23.17	387.51	408.28	21.01	90.69%	95.61%	95.28%	2	_	5.546	5.958	1.786
13900	Saturday, September 26, 2009	6:08	52.70	7.41	46.36	352.28	392.85	41.17	88.82%	94,37%	94.55%	3	_	6.225	6.603	1.807
13899	Saturday, September 26, 2009	3:06	68.32	5.94	63.91	309.48	365.38	56.47	00.0270	93.28%	92,92%	4	1	5.668	5.944	1.774
13898	Friday, September 25, 2009	17:52	21.12	7.30	15.00	307.29	321.23	14.09	93.93%	96.77%	97.35%	2	_	4.092	4.759	1.89
13897	Friday, September 25, 2009	17:12	25.59	7.64	18.95	291.57	308.68	17.31	91.35%	94.87%	94.43%	2	_	4.675	5.385	1.84
13895	Friday, September 25, 2009	13:51	29.38	8.63	21.90	247.00	267.25	20.43	93.27%	96.09%	95.23%	2	_	5.874	6.7	1.844
13894	Friday, September 25, 2009	12:53	28.19	8.79	20.49	228.97	248.09	19.21	93.75%	97.33%	96.70%	2	_	6.116	6.951	1.862
13893	Friday, September 25, 2009	12:00	27.91	8.74	20.43	210.90	229.70	18.88	93.12%	95.44%	95.91%	2	_	5.559	7.14	1.874
13892	Friday, September 25, 2009	11:07	28.29	8.65	20.28	192.64	211.49	19.00	91.48%	96.21%	96.16%	2	_	6.61	7.179	1.875
13891	Friday, September 25, 2009	10:03	27.51	7.30	21.16	173.27	193.17	19.96	94.36%	97.15%	96.31%	2	_	5.58	5.977	1.794
13890	Friday, September 25, 2009	9:00	28.21	8.44	20.83	154.51	173.68	19.27	92.51%	95.77%	95.01%	2	_	5.809	6.678	1.838
13889	Friday, September 25, 2009	8:05	27.89	8.50	20.44	135.61	154.78	19.26		96.77%	96.33%	2	_	5.604	6.663	1.83







```
PA S53 DIGITAL STATUS<NoSets>
D:60FANC Area 60 Circulating Fan -See Alarm Log-
                                O bit-31
O bit-30
O bit-29
O bit-28
O bit-26
O bit-25
O bit-24
O bit-23
O bit-22
O bit-21
O bit-20
O bit-21
O bit-20
O bit-19
O bit-17
O bit-16
Messages
                                 o bit-31 ......
      bit-14
bit-13
bit-12
bit-11
bit-11
bit-10
bit- 9
bit- 8
bit- 7
bit- 6
                                                                       BYPASSED
                                                                      Speech is
BYPASSED
bit- 4 ......
Messages
 No control PDB DBM_NOPROP
```



Elog Notes

- MCR
- o Pbar
- RunCo